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RAW SEQUENCE LISTING

DATE: 07/03/2002

PATENT APPLICATION: US/09/916,849A

TIME: 12:44:48

Input Set : A:\Stan-021.app

Output Set: N:\CRF3\07032002\I916849A.raw

3 <110> APPLICANT: Bostein, et al.
5 <120> TITLE OF INVENTION: Basal Markers in Breast Cancer and Related Reagents
6 Uses Thereof
8 <130> FILE REFERENCE: 2002850-0024
10 <140> CURRENT APPLICATION NUMBER: 09/916,849A
11 <141> CURRENT FILING DATE: 2001-07-26
13 <160> NUMBER OF SEQ ID NOS: 15
15 <170> SOFTWARE: PatentIn Ver. 2.1
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19 <212> TYPE: PRT
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34 35 40 45
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37 50 55 60
39 Leu Phe Ser Thr Asp Asn Asp Asp Phe Thr Val Arg Asn Gly Glu Thr
40 65 70 75 80
42 Val Gln Glu Arg Arg Ser Leu Lys Glu Arg Asn Pro Leu Lys Ile Phe
43 85 90 95
45 Pro Ser Lys Arg Ile Leu Arg Arg His Lys Arg Asp Trp Val Val Ala
46 100 105 110
48 Pro Ile Ser Val Pro Glu Asn Gly Lys Gly Pro Phe Pro Gln Arg Leu
49 115 120 125
51 Asn Gln Leu Lys Ser Asn Lys Asp Arg Asp Thr Lys Ile Phe Tyr Ser
52 130 135 140
54 Ile Thr Gly Pro Gly Ala Asp Ser Pro Pro Glu Gly Val Phe Ala Val
55 145 150 155 160
57 Glu Lys Glu Thr Gly Trp Leu Leu Leu Asn Lys Pro Leu Asp Arg Glu
58 165 170 175
60 Glu Ile Ala Lys Tyr Glu Leu Phe Gly His Ala Val Ser Glu Asn Gly
61 180 185 190
63 Ala Ser Val Glu Asp Pro Met Asn Ile Ser Ile Ile Val Thr Asp Gln
64 195 200 205
66 Asn Asp His Lys Pro Lys Phe Thr Gln Asp Thr Phe Arg Gly Ser Val

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67      210      215      220
69 Leu Glu Gly Val Leu Pro Gly Thr Ser Val Met Gln Val Thr Ala Thr
70 225      230      235      240
72 Asp Glu Asp Asp Ala Ile Tyr Thr Tyr Asn Gly Val Val Ala Tyr Ser
73      245      250      255
75 Ile His Ser Gln Glu Pro Lys Asp Pro His Asp Leu Met Phe Thr Ile
76      260      265      270
78 His Arg Ser Thr Gly Thr Ile Ser Val Ile Ser Ser Gly Leu Asp Arg
79      275      280      285
81 Glu Lys Val Pro Glu Tyr Thr Leu Thr Ile Gln Ala Thr Asp Met Asp
82      290      295      300
84 Gly Asp Gly Ser Thr Thr Thr Ala Val Ala Val Val Glu Ile Leu Asp
85 305      310      315      320
87 Ala Asn Asp Asn Ala Pro Met Phe Asp Pro Gln Lys Tyr Glu Ala His
88      325      330      335
90 Val Pro Glu Asn Ala Val Gly His Glu Val Gln Arg Leu Thr Val Thr
91      340      345      350
93 Asp Leu Asp Ala Pro Asn Ser Pro Ala Trp Arg Ala Thr Tyr Leu Ile
94      355      360      365
96 Met Gly Gly Asp Asp Gly Asp His Phe Thr Ile Thr Thr His Pro Glu
97      370      375      380
99 Ser Asn Gln Gly Ile Leu Thr Thr Arg Lys Gly Leu Asp Phe Glu Ala
100 385      390      395      400
102 Lys Asn Gln His Thr Leu Tyr Val Glu Val Thr Asn Glu Ala Pro Phe
103      405      410      415
105 Val Leu Lys Leu Pro Thr Ser Thr Ala Thr Ile Val Val His Val Glu
106      420      425      430
108 Asp Val Asn Glu Ala Pro Val Phe Val Pro Pro Ser Lys Val Val Glu
109      435      440      445
111 Val Gln Glu Gly Ile Pro Thr Gly Glu Pro Val Cys Val Tyr Thr Ala
112      450      455      460
114 Glu Asp Pro Asp Lys Glu Asn Gln Lys Ile Ser Tyr Arg Ile Leu Arg
115 465      470      475      480
117 Asp Pro Ala Gly Trp Leu Ala Met Asp Pro Asp Ser Gly Gln Val Thr
118      485      490      495
120 Ala Val Gly Thr Leu Asp Arg Glu Asp Glu Gln Phe Val Arg Asn Asn
121      500      505      510
123 Ile Tyr Glu Val Met Val Leu Ala Met Asp Asn Gly Ser Pro Pro Thr
124      515      520      525
126 Thr Gly Thr Gly Thr Leu Leu Thr Leu Ile Asp Val Asn Asp His
127      530      535      540
129 Gly Pro Val Pro Glu Pro Arg Gln Ile Thr Ile Cys Asn Gln Ser Pro
130 545      550      555      560
132 Val Arg His Val Leu Asn Ile Thr Asp Lys Asp Leu Ser Pro His Thr
133      565      570      575
135 Ser Pro Phe Gln Ala Gln Leu Thr Asp Asp Ser Asp Ile Tyr Trp Thr
136      580      585      590
138 Ala Glu Val Asn Glu Glu Gly Asp Thr Val Val Leu Ser Leu Lys Lys
139      595      600      605

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144 Gly Asn Lys Glu Gln Leu Thr Val Ile Arg Ala Thr Val Cys Asp Cys
145 625      630      635      640
147 His Gly His Val Glu Thr Cys Pro Gly Pro Trp Lys Gly Gly Phe Ile
148      645      650      655
150 Leu Pro Val Leu Gly Ala Val Leu Ala Leu Leu Phe Leu Leu Leu Val
151      660      665      670
153 Leu Leu Leu Leu Val Arg Lys Lys Arg Lys Ile Lys Glu Pro Leu Leu
154      675      680      685
156 Leu Pro Glu Asp Asp Thr Arg Asp Asn Val Phe Tyr Tyr Gly Glu Glu
157      690      695      700
159 Gly Gly Gly Glu Glu Asp Gln Asp Tyr Asp Ile Thr Gln Leu His Arg
160 705      710      715      720
162 Gly Leu Glu Ala Arg Pro Glu Val Val Leu Arg Asn Asp Val Ala Pro
163      725      730      735
165 Thr Ile Ile Pro Thr Pro Met Tyr Arg Pro Arg Pro Ala Asn Pro Asp
166      740      745      750
168 Glu Ile Gly Asn Phe Ile Ile Glu Asn Leu Lys Ala Ala Asn Thr Asp
169      755      760      765
171 Pro Thr Ala Pro Pro Tyr Asp Thr Leu Leu Val Phe Asp Tyr Glu Gly
172      770      775      780
174 Ser Gly Ser Asp Ala Ala Ser Leu Ser Ser Leu Thr Ser Ser Ala Ser
175 785      790      795      800
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198      20      25      30
200 Phe Ser Pro Glu Ala Trp Leu Gln Gln Tyr Gly Tyr Leu Pro Pro Gly
201      35      40      45
203 Asp Leu Arg Thr His Thr Gln Arg Ser Pro Gln Ser Leu Ser Ala Ala
204      50      55      60
206 Ile Ala Ala Met Gln Lys Phe Tyr Gly Leu Gln Val Thr Gly Lys Ala
207 65      70      75      80
209 Asp Ala Asp Thr Met Lys Ala Met Arg Arg Pro Arg Cys Gly Val Pro
210      85      90      95
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215 Ala Ile Gln Gly Leu Lys Trp Gln His Asn Glu Ile Thr Phe Cys Ile
216          115          120          125
218 Gln Asn Tyr Thr Pro Lys Val Gly Glu Tyr Ala Thr Tyr Glu Ala Ile
219          130          135          140
221 Arg Lys Ala Phe Arg Val Trp Glu Ser Ala Thr Pro Leu Arg Phe Arg
222 145          150          155          160
224 Glu Val Pro Tyr Ala Tyr Ile Arg Glu Gly His Glu Lys Gln Ala Asp
225          165          170          175
227 Ile Met Ile Phe Phe Ala Glu Gly Phe His Gly Asp Ser Thr Pro Phe
228          180          185          190
230 Asp Gly Glu Gly Gly Phe Leu Ala His Ala Tyr Phe Pro Gly Pro Asn
231          195          200          205
233 Ile Gly Gly Asp Thr His Phe Asp Ser Ala Glu Pro Trp Thr Val Arg
234          210          215          220
236 Asn Glu Asp Leu Asn Gly Asn Asp Ile Phe Leu Val Ala Val His Glu
237 225          230          235          240
239 Leu Gly His Ala Leu Gly Leu Glu His Ser Ser Asp Pro Ser Ala Ile
240          245          250          255
242 Met Ala Pro Phe Tyr Gln Trp Met Asp Thr Glu Asn Phe Val Leu Pro
243          260          265          270
245 Asp Asp Asp Arg Arg Gly Ile Gln Leu Tyr Gly Gly Glu Ser Gly
246          275          280          285
248 Phe Pro Thr Lys Met Pro Pro Gln Pro Arg Thr Thr Ser Arg Pro Ser
249          290          295          300
251 Val Pro Asp Lys Pro Lys Asn Pro Thr Tyr Gly Pro Asn Ile Cys Asp
252 305          310          315          320
254 Gly Asn Phe Asp Thr Val Ala Met Leu Arg Gly Glu Met Phe Val Phe
255          325          330          335
257 Lys Glu Arg Trp Phe Trp Arg Val Arg Asn Asn Gln Val Met Asp Gly
258          340          345          350
260 Tyr Pro Met Pro Ile Gly Gln Phe Trp Arg Gly Leu Pro Ala Ser Ile
261          355          360          365
263 Asn Thr Ala Tyr Glu Arg Lys Asp Gly Lys Phe Val Phe Phe Lys Gly
264          370          375          380
266 Asp Lys His Trp Val Phe Asp Glu Ala Ser Leu Glu Pro Gly Tyr Pro
267 385          390          395          400
269 Lys His Ile Lys Glu Leu Gly Arg Gly Leu Pro Thr Asp Lys Ile Asp
270          405          410          415
272 Ala Ala Leu Phe Trp Met Pro Asn Gly Lys Thr Tyr Phe Phe Arg Gly
273          420          425          430
275 Asn Lys Tyr Tyr Arg Phe Asn Glu Glu Leu Arg Ala Val Asp Ser Glu
276          435          440          445
278 Tyr Pro Lys Asn Ile Lys Val Trp Glu Gly Ile Pro Glu Ser Pro Arg
279          450          455          460
281 Gly Ser Phe Met Gly Ser Asp Glu Val Phe Thr Tyr Phe Tyr Lys Gly
282 465          470          475          480
284 Asn Lys Tyr Trp Lys Phe Asn Asn Gln Lys Leu Lys Val Glu Pro Gly
285          485          490          495

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287 Tyr Pro Lys Ser Ala Leu Arg Asp Trp Met Gly Cys Pro Ser Gly Gly
288          500          505          510
290 Arg Pro Asp Glu Gly Thr Glu Glu Thr Glu Val Ile Ile Glu
291          515          520          525
293 Val Asp Glu Glu Gly Gly Glu Ala Val Ser Ala Ala Val Val Leu
294          530          535          540
296 Pro Val Leu Leu Leu Leu Leu Val Leu Ala Val Gly Leu Ala Val Phe
297 545          550          555          560
299 Phe Phe Arg Arg His Gly Thr Pro Arg Arg Leu Leu Tyr Cys Gln Arg
300          565          570          575
302 Ser Leu Leu Asp Lys Val
303          580
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307 <211> LENGTH: 2923
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320          20          25          30
322 Gln Val Gly Pro Cys Arg Ser Leu Gly Ser Arg Gly Arg Gly Ser Ser
323          35          40          45
325 Gly Ala Cys Ala Pro Met Gly Trp Leu Cys Pro Ser Ser Ala Ser Asn
326          50          55          60
328 Leu Trp Leu Tyr Thr Ser Arg Cys Arg Asp Ala Gly Thr Glu Leu Thr
329 65          70          75          80
331 Gly His Leu Val Pro His His Asp Gly Leu Arg Val Trp Cys Pro Glu
332          85          90          95
334 Ser Glu Ala His Ile Pro Leu Pro Pro Ala Pro Glu Gly Cys Pro Trp
335          100          105          110
337 Ser Cys Arg Leu Leu Gly Ile Gly Gly His Leu Ser Pro Gln Gly Lys
338          115          120          125
340 Leu Thr Leu Pro Glu Glu His Pro Cys Leu Lys Ala Pro Arg Leu Arg
341          130          135          140
343 Cys Gln Ser Cys Lys Leu Ala Gln Ala Pro Gly Leu Arg Ala Gly Glu
344 145          150          155          160
346 Arg Ser Pro Glu Glu Ser Leu Gly Gly Arg Arg Lys Arg Asn Val Asn
347          165          170          175
349 Thr Ala Pro Gln Phe Gln Pro Pro Ser Tyr Gln Ala Thr Val Pro Glu
350          180          185          190
352 Asn Gln Pro Ala Gly Thr Pro Val Ala Ser Leu Arg Ala Ile Asp Pro
353          195          200          205
355 Asp Glu Gly Glu Ala Gly Arg Leu Glu Tyr Thr Met Asp Ala Leu Phe
356          210          215          220
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VERIFICATION SUMMARY

PATENT APPLICATION: US/09/916,849A

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